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FRESH MARKET STAKED TOMATO TRIAL 1978

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Gerald G. Myers, and Monica Kmetz

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DEPARTMENT OF HORTICULTURE  
OHIO AGRICULTURAL RESEARCH AND DEVELOPMENT CENTER  
WOOSTER, OHIO

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Fresh Market Staked Tomato Trial, 1978  
Columbus, Ohio

J.W. Scott, James D. Utzinger,  
Gerald G. Myers, and Monica Kmetz<sup>1</sup>

This is another report of a continuing series designed to evaluate currently used and new cultivars of tomatoes.

Trial Design

Ten cultivars were grown with 4 replications and 30 others were grown in non-replicated observation plots. Spacing was 48 inches between rows and 18 inches between plants within rows. There were 15 plants per single row plot, equivalent to 7,260 plants per acre. Plants were pruned to 2 stems by allowing the first lateral below the first flower cluster to develop. All other laterals were removed to the sixth flower cluster.

Seed was sown on April 5, 1978. Seedlings were transplanted to 2½" cell packs on April 19 and field set on May 22. About ½" of well rotted compost was spread on the plot during the fall of 1977. One thousand pounds per acre 12-12-12 were plowed down on April 5. At field planting, each plant received ½ pint of 10-52-8 starter solution at 3 lb. per 50 gal. Forty lbs. per acre Vegiben was applied on June 20 for weed control. Irrigation was applied as needed at a rate of 1" per week.

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Weather Data - Columbus University Farm Weather Station

<u>Month</u>	<u>Mean Temperatures (°F)</u>			<u>Total Rainfall (inches)</u>	<u>Above or Below Normal (inches)</u>
	<u>Max.</u>	<u>Min.</u>	<u>Avg.</u>		
May	68	49.5	58.8	3.27	-0.71
June	80.5	59.1	69.8	3.83	+0.03
July	83.4	62.9	73.1	2.06	-2.35
August	82.8	62.4	72.6	4.57	+1.06
September	80.7	57.9	69.3	0.41	-2.20

CodeSeed Sources

A-1 Agway, Inc., Vegetable Seed Farm, Prospect, PA 16052  
 B-1 George J. Ball, Inc., West Chicago, IL 60185  
 B-2 W. Atlee Burpee, Co., Philadelphia, PA 19132  
 F-1 Ferry-Morse Seed Co., Mountain View, CA 94042  
 H-1 Joseph Harris Co., Rochester, N.Y. 14624  
 H-2 Hazera Seeds Ltd. P.O.B. 1565, Haifa, Israel  
 L-1 Lethermans Seed Co., Canton, OH 44707  
 M-1 The Meyers Seed Co., 600 S. Caroline St., Baltimore Md. 21231  
 N-1 Northrup King & Co., P.O. Box 959, Minneapolis, MN 55440  
 P-1 Park Seed Wholesale, Inc., Greenwood, S.C. 29646  
 P-2 Peto Seed Company, Inc., Box 4206, Saticoy, CA 93003  
 S-1 Stokes Seeds, Inc. 737 Main St., Box 548, Buffalo, N.Y. 14240  
 V-1 Vaughn's Seed Co., Downer's Grove, IL 60515

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## Results and Discussion

The first harvest was made on July 20 and the last on October 17. Results of the replicated trial are given in Table 1. A comparison of the 1978 results with previous years is given in Table 2. The 1978 yields were very good in relation to last year's trial and comparable to the better years of the 70's. Probably the compost and less hot days and nights in July accounted for the increase over the 1977 trial. Early Girl had the best early yield but the percent of No. 1 fruit and fruit size were rather low. As in the past, Jet Star performed well when earliness, total yield, and percent No. 1 fruit are considered. Ramapo was impressive in total yield and percent of No. 1 fruit. Other lines which looked good in some respects were Supersonic B and Traveler.

The results from the observation trial are given in Table 3. Super Red and 88HF appear quite promising and deserve further testing in the replicated trial. Setmore was also good but might be best suited to cage culture.





TABLE 1. Replicated Stake Trial. Yield, Grade, and Fruit Size of Tomato Cultivars, Columbus, Ohio, 1978.

Cultivar*	Seed. Source	Early Harvest to July 27					Total Harvest to October 17				
		Marketable Yield (Tons/A)			Fruit Size (oz.)	Percent Culls	Marketable Yield (Tons/A)			Fruit Size (oz.)	Percent Culls
		No.1	No. 1 %	Total			No. 1	No. 1 %	Total		
Early Girl	B-1	2.28	39	5.83	3.04	3.5	11.00	30	36.78	3.17	5
Jetstar	H-1	1.35	62	2.16	4.00	10	20.11	56	35.81	4.77	6
Fantastic	P-2	1.05	28	3.73	4.48	4	13.19	39	33.85	5.52	5
Better Boy	B-1	0.71	35	2.04	4.64	8	10.95	33	33.04	5.84	7
Supersonic B	H-1	0.55	31	1.75	3.20	22	23.51	51	46.08	5.76	5
Super Fantastic VF	B-1	0.40	15	2.73	3.84	13	10.78	30	35.56	5.12	7
Big Girl	B-2	0.25	20	1.28	2.56	19	15.60	40	38.85	6.00	7
Traveler	L-1	0.12	36	0.32	2.08	66	20.14	66	30.69	3.92	9
Ramapo	V-1	0.06	100	0.06	1.41	92	28.75	66	43.55	5.92	7
Heinz 1439	N-1	0.05	45	0.11	1.76	23	13.58	65	20.92	3.84	6
LSD (5%)		0.76		1.74	0.01		6.29		8.02	0.14	

\* Cultivars ranked in decreasing order of early yield of U.S. No. 1 grade fruits. Data based on mean of 4 replications.

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TABLE 2. Yield Comparison of Selected Tomato Cultivars  
OSU Horticulture Farm, Columbus, 1973-1978

<u>Cultivar</u>	<u>Total Yield Tons/A</u>					
	<u>73</u>	<u>74</u>	<u>75</u>	<u>76</u>	<u>77</u>	<u>78</u>
Fantastic	29.5	27.6	--	--	18.8	33.9
Jet Star	30.5	34.3	37.5	28.0	26.2	35.8
Supersonic	28.9	28.0	38.9	27.5	--	--
Caravelle	--	--	--	--	--	--
Ball Better Boy	28.5	31.6	35.4	18.1	22.8	33.0
Burpee VF	26.3	--	--	--	--	--
Market King	--	--	--	--	--	--
Heinz 1439	--	--	--	--	10.6	20.9
Wonder Boy	--	--	--	--	--	--
Ramapo	29.0	--	--	--	20.4	43.6
Campbell 1327	17.6	--	--	--	--	--
Setmore	18.4	--	--	--	--	--
Supersonic B	34.7	32.0	40.3	--	22.9	46.1
Tropic	29.3	--	--	--	--	--
W2HF	--	33.5	34.8	--	--	--
Early Girl	--	32.4	--	--	21.0	36.8
88HF	--	29.8	34.5	--	--	--
OCHF	--	32.1	36.5	--	--	--
Super Red	--	32.4	44.6	--	--	--
Hybrid 980	--	--	34.2	--	--	--
Super Fantastic	--	--	--	26.8	--	--
Super Fantastic VF	--	--	--	--	21.9	35.6
Traveler	--	--	--	--	20.4	30.7
Big Girl	--	--	--	20.0	17.0	38.9

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TABLE 3. Observation Stake Trial: Yield, Grade, and Fruit Size of Tomato Cultivars, Columbus, Ohio, 1978.

Cultivar*	Seed Source	Early Harvest to July 27					Total Harvest to October 17				
		Marketable Yield (Tons/A)					Marketable Yield (Tons/A)				
		No. 1	% No. 1	Total	Fruit Size (oz.)	Percent Culls	No. 1	% No. 1	Total	Fruit Size (oz.)	Percent Culls
8T4	B-2	2.23	74	3.00	4.72	3	13.52	50	26.87	4.41	9
Royal Flush	F-1	1.94	84	2.30	5.63	14	16.51	57	28.79	6.25	8
Floramerica	P-2	1.69	76	2.22	4.09	26	20.96	57	36.89	5.36	14
Pink Panther	B-1	1.67	71	2.37	3.65	20	19.05	55	34.56	4.09	12
OC6F	H-1	1.26	41	3.07	4.42	5	11.98	36	32.93	5.18	6
OCHF	H-1	1.26	63	1.98	3.86	2	16.70	57	29.30	4.00	13
W2HF	H-1	1.09	44	2.46	3.26	10	22.43	59	38.31	3.99	10
Americana	N-1	1.09	73	1.48	3.61	36	7.91	52	15.14	3.68	33
Monte Carlo	P-2	1.07	33	3.25	4.87	11	19.77	45	43.86	5.28	6
PSX2776	P-2	0.80	36	2.25	4.25	4	8.57	24	35.00	5.21	7
XP802	A-1	0.72	83	0.87	2.74	8	16.77	44	38.31	3.94	8
V.F. Gardner	A-1	0.65	46	1.43	2.55	13	16.72	42	39.79	4.20	6

\* Cultivars ranked in decreasing order of early yield of U.S. No.1 grade fruits.



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Cultivar*	Seed Source	Early Harvest to July 27					Early Harvest to October 17				
		Marketable Yield (Tons/A)			Fruit Size (oz.)	Percent Culls	Marketable Yield (Tons/A)			Fruit Size (oz.)	Percent Culls
		No. 1	% No. 1	Total			No. 1	% No. 1	Total		
88HF	H-1	0.63	65	0.97	2.91	13	25.27	58	43.57	4.99	2
7T21	B-2	0.63	19	3.27	4.00	4	13.85	31	44.69	4.92	4
Supersonic	H-1	0.58	35	1.62	3.46	1	16.63	40	41.03	5.70	6
PSX 4974	P-2	0.58	70	0.82	4.18	58	16.23	53	30.32	5.11	21
Westover	M-1	0.56	49	1.13	3.96	17	20.58	58	35.32	5.84	5
Super Red	A-1	0.48	49	0.97	2.56	15	28.07	53	52.46	5.66	7
Cal Ace	P-2	0.43	66	0.66	6.17	37	24.55	67	36.60	6.68	6
Setmore	H-1	0.36	71	0.51	2.40	26	25.45	58	43.85	5.16	5
Walter	A-1	0.21	42	0.51	2.40	0	26.17	57	45.24	6.50	6
Lar 2	H-1	0.10	33	0.29	3.20	17	22.98	56	40.92	6.09	7
Eilon	H-2	0.05	17	0.29	2.40	49	17.79	51	34.53	4.32	11
Ace 55VF	A-1	0.02	28	0.07	1.60	77	21.93	68	32.35	6.33	11
Ultra Girl VFN	S-1	0.02	1	1.36	3.09	42	13.98	33	41.90	4.84	11
8T1	B-2	0.02	14	0.14	1.86	26	14.88	42	35.22	5.15	7
Golden Jubilee	P-1	0.0	0.0	0.0	0.0	100	19.42	70	27.92	6.64	13
Golden Jubilee	H-1	0.0	0.0	0.0	0.0	100	18.55	68	27.27	5.78	12
8T3	B-2	0.0	0.0	0.0	0.0	100	12.52	36	34.42	5.51	9
Pakmor	A-1	0.0	0.0	1.48	5.74	2	7.48	26	28.54	6.72	7

\*Cultivars ranked in decreasing order of early yield of U.S. No. 1 grade fruits.

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